

CLAIMS

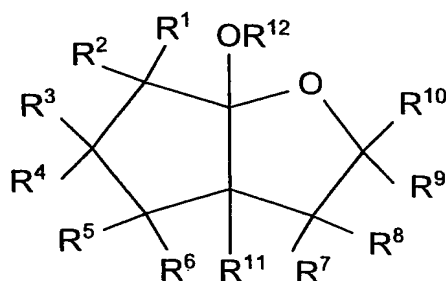
1. An agent for optical resolution which comprises:

a 1-alkoxybicyclo [3.3.0] -2-oxaoctane compound represented by the
5 formula [1] ,

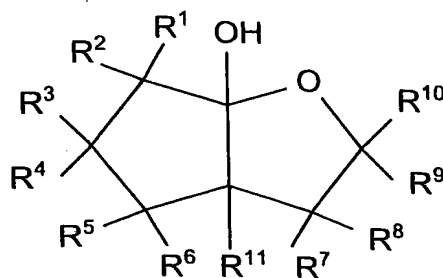
a 1-hydroxybicyclo [3.3.0] -2-oxaoctane compound represented by the
formula [2] or

a bicyclo[3.3.0]-2-oxa-1-octene compound represented by the formula
[3] :

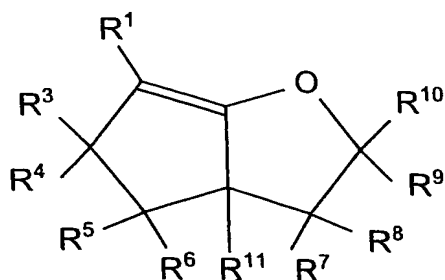
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... [1]



... [2]



... [3]

wherein R^1 to R^{10} each independently represents hydrogen atom or an alkyl group having 1 to 20 carbon atoms, R^{11} represents a condensed polycyclic hydrocarbon group or a group having at least three cyclic structures, and R^{12} represents an alkyl group having 1 to 6 carbon atoms.

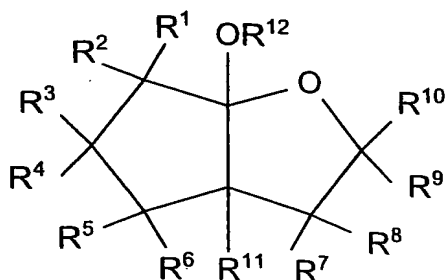
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2. A process for producing an optically active substance which comprises the steps of:

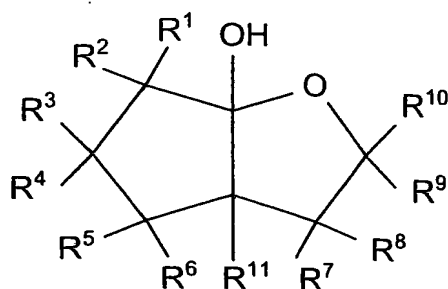
bringing a 1-alkoxybicyclo [3.3.0] -2-oxaoctane compound represented by the formula [1] , a 1-hydroxybicyclo [3.3.0] -2-oxaoctane compound represented by the formula [2] or a bicyclo [3.3.0] -2-oxa-1-octene compound represented by the formula [3] , into reaction with a mixture of optically active substances having active hydrogen atom to form a mixture of diastereomers;

resolving the mixture of the diastereomers into each diastereomer; and

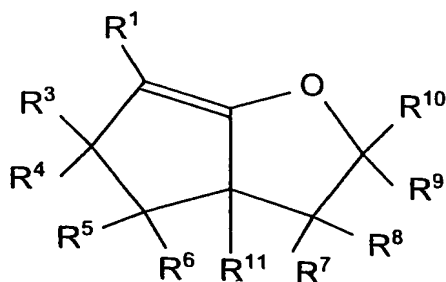
decomposing at least one of the diastereomers obtained by resolution to obtain an (R) optically active substance or an (S) optically active substance:



... [1]



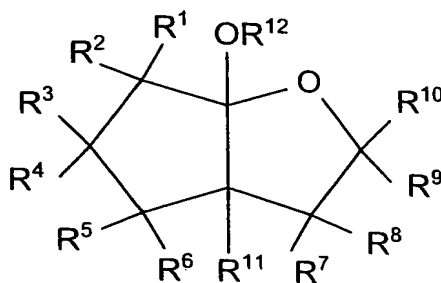
... [2]



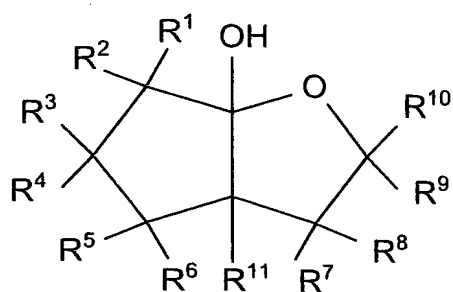
... [3]

wherein R¹ to R¹⁰ each independently represents hydrogen atom or an alkyl group having 1 to 20 carbon atoms, R¹¹ represents a condensed polycyclic hydrocarbon group or a group having at least three cyclic structures, and R¹² represents an alkyl group having 1 to 6 carbon atoms.

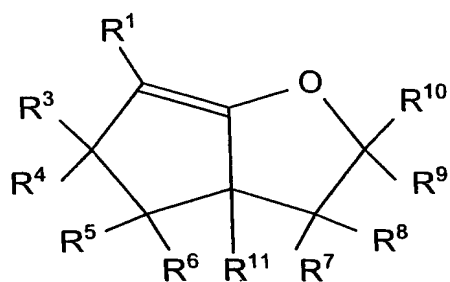
3. A 1-alkoxybicyclo [3.3.0] -2-oxa octane compound represented by the formula [1] , a 1-hydroxybicyclo [3.3.0] -2-oxa octane compound represented by the formula [2] or a bicyclo [3.3.0] -2-oxa-1-octene compound represented by the formula [3] :



... [1]



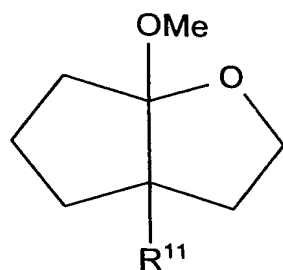
...[2]



...[3]

wherein R^1 to R^{10} each independently represents hydrogen atom or an alkyl group having 1 to 20 carbon atoms, R^{11} represents fluorenylmethyl group or fluorenylidene methyl group, and R^{12} represents an alkyl group having 1 to 6 carbon atoms.

4. A 1-methoxybicyclo [3.3.0] -2-oxaoctane compound represented by the formula [4] :



... [4]

wherein R^{11} represents bis(4-cyclohexylphenyl)methyl group,

4-(9-phenanthryl)phenyl group, 4-(1-pyrenyl)phenyl group,
4-(5-acenaphthenyl)phenyl group or 4-(9-anthryl)phenyl group.

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